

ABSTRACT

An object of the present invention is to provide a null mutant non-human animal showing salt intake behavior similar to that of wild-type animals under water-sufficient conditions and showing much more intakes of hypertonic saline compared with wild-type animals under water- and salt-depleted conditions, for example, an Na_v2 gene-deficient non-human animal, which is useful as a model animal of excessive salt intake experiments.

The object will be attained by following process: mouse genomic libraries are screened with rat Na_v2 cDNA as a probe, then Na_v2 gene of genomic DNA is isolated, and a targeting vector is constructed by inserting marker gene such as neo gene into the exon of Na_v2 . After thus constructed targeting vector is induced to ES cells, homologously recombined ES cells are selected, then germ line chimeric mice are constructed with this ES cells strain, and they are hybridized with the wild-type mice and heterozygous mutant mice are obtained. By intercrossing of thus obtained heterozygous mutant mice, Na_v2 knockout mice are constructed.